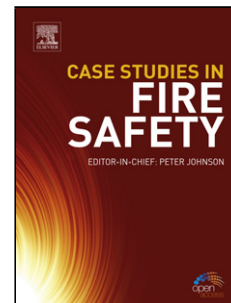


Accepted Manuscript

Title: Validating the early corrosion sensing functionality in poly (ether imide) coatings for enhanced protection of magnesium alloy AZ31

Authors: D. Mata, N. Scharnagl, S.V. Lamaka, E. Malheiro, F. Maia, M.L. Zheludkevich



PII: S0010-938X(18)30501-8
DOI: <https://doi.org/10.1016/j.corsci.2018.05.034>
Reference: CS 7546

To appear in:

Received date: 15-3-2018
Revised date: 25-5-2018
Accepted date: 26-5-2018

Please cite this article as: Mata D, Scharnagl N, Lamaka SV, Malheiro E, Maia F, Zheludkevich ML, Validating the early corrosion sensing functionality in poly (ether imide) coatings for enhanced protection of magnesium alloy AZ31, *Corrosion Science* (2018), <https://doi.org/10.1016/j.corsci.2018.05.034>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Validating the early corrosion sensing functionality in poly (ether imide) coatings for enhanced protection of magnesium alloy AZ31

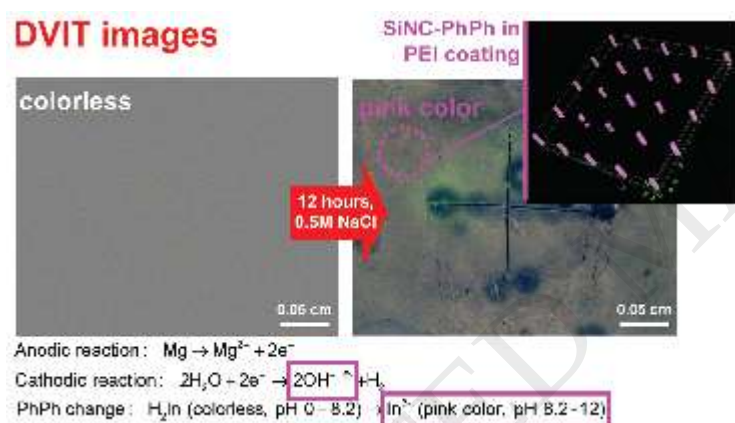
D. Mata^a, N. Scharnagl^{b*}, S.V. Lamaka^b, E. Malheiro^a, F. Maia^a, M.L. Zheludkevich^{b,c}

^aSmallmatek - Small Materials and Technologies, Rua dos Canhas, 3810-075 Aveiro, Portugal

^bInstitute of Materials Research, Helmholtz-Zentrum Geesthacht, Max-Planck-Straße 1, 21502 Geesthacht, Germany. E-mail: nico.scharnagl@hzg.de

^cFaculty of Engineering, Christian-Albrechts-University of Kiel, Kaiserstr. 2, D-24143 Kiel, Germany

Graphical abstract



Highlights

- Bifunctional coating is proposed to enhance the service life of corrosion susceptible AZ31 alloy
- The pH changes following corrosion outbreak trigger both corrosion sensing and self-healing functionalities
- Observations evidence correlation between kinetics of color signaling and corrosion activity

Download English Version:

<https://daneshyari.com/en/article/7893367>

Download Persian Version:

<https://daneshyari.com/article/7893367>

[Daneshyari.com](https://daneshyari.com)